Health Consultation

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KELLY AIR FORCE BASE

SAN ANTONIO, BEXAR COUNTY, TEXAS

CERCLIS NO. TX2571724333

AUGUST 23, 2000

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Public Health Service
Agency for Toxic Substances and Disease Registry
Division of Health Assessment and Consultation
Atlanta, Georgia 30333

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Prepared by:

Federal Facilities Assessment Branch
Division of Health Assessment and Consultation
Agency for Toxic Substances And Disease Registry

BACKGROUND AND STATEMENT OF ISSUES

The Agency for Toxic Substances and Disease Registry (ATSDR) regional office in Dallas, Texas (Region VI) requested that ATSDR headquarters review recent radiological data collected at Kelly Air Force Base (KAFB). This review was to determine if radiological contamination levels were within acceptable limits for release to the public or if additional actions would be needed prior to its release. Previous information supplied to the ATSDR Region VI office indicated that at least 2 facilities at the base appeared to be contaminated with radioactive substances. The purpose of the performed surveys was to determine if other buildings were contaminated and which buildings could be released to the public for unrestricted use.

The data reviewed for this public health consultation consist of radiation surveys performed during 1999 in 14 buildings associated with KAFB. The buildings surveyed included former radium paint shops, storage, shipping and receiving areas, and maintenance facilities. This document discusses the pertinent issues associated with those surveys which were supplied to ATSDR as draft documents [1].

DISCUSSION

The radiological surveys for these facilities were designed to detect radiological contamination on surfaces (walls and floors) and, if present, to determine if the contamination was in a form that was easily removed (radiological smears). The survey designs followed the protocol described by the Multi-Agency Radiation Survey and Site Investigation Manual (MARSIMM) [2]. Other types of analyses performed included gamma radiation exposure rates and evaluation of radiation levels based on the computer model RESRAD-BUILD. The RESRAD family of computer codes were developed at Argonne National Laboratory for the U.S. Department of Energy to calculate site-specific residual radioactive material guidelines as well as radiation dose and excess lifetime cancer risk to individual and/or collective receptors. RESRAD-BUILD is designed to perform residual radioactive material dose assessments in buildings for one or more individuals. To assist in the survey design and implementation, the survey group interviewed the KAFB Radiation Safety Officer and reviewed historical site documents.

ATSDR did not verify the model results for these facilities as we did not have the specific knowledge of each facility. However, the agency did compare the survey results with regulatory guidelines in place for surface contamination limits. These guidelines included the regulations of the Department of Energy, codified in Title 10 of the Code of Federal Regulations, Section 835 and the Nuclear Regulatory Commission guidelines originally published by the former Atomic Energy Commission in 1974 [3].

This public health consultation only pertains to the following buildings or locations: Building 129; Building 133; Building 306; Building 326; Building 329; Building 374; Building 375 and its service area 2LM; Building 385; Building 620; Building 1420; Building 1470; Building 1562 and; Building 3810.

CONCLUSIONS and RECOMMENDATIONS

ATSDR has reviewed the findings of the survey team and has agreed with their results. A brief summary of the survey appears in Table I with the complete survey in Table II of this public health consultation. For those buildings that ATSDR believes additional surveying should performed, the following recommendations as listed in Table I are put forth:

1. Resurvey Buildings 129 and Building 133 following demolition of structures;
2. Survey Building 326 for radon;
3. Remove floor materials in Building 374, resurvey for contamination as well as radon; and
4. Survey floor drains in Building 385.

Table I. Results of Kelly Air Force Base Building Surveys

Building	ATSDR Conclusions and Recommendations
Building 129; Building 133	Recommending additional surveys when hanger structures removed
Building 306	Can be released for public use.
Building 326	Recommend radon monitoring
Building 329	Can be released for public use
Building 374	Follow recommendations of survey team and recommend radon monitoring
Building 375; service area 2LM	Can be released for public use
Building 385	Recommend that drains be checked; if negative, can be released for public use
Building 620	Can be released for public use
Building 1420	Can be released for public use
Building 1470-I	Can be released for public use
Building 1562	Can be released for public use
Building 3810	Can be released for public use

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Table II. Results of Kelly Air Force Base Building Surveys

Building	Use	Survey Results	ATSDR findings
Building 129; Building 133	Radium paint shop; demolished in the 1930s/40s time frame for hanger construction	No contamination found; however, could not adequately survey the hanger facilities because of existing structures	Recommending additional surveys when hanger structures removed
Building 306	Former radioactive waste office	No contamination found.	Can be released for public use.
Building 326	Former radium paint shop	Radioactive materials levels are in excess of surface contamination guidelines mentioned above	Recommend radon monitoring
Building 329	Electrical shop storage area; Thought that Cesium 137 or Krypton 85 may have been in building	Scans showed no values in excess of release criteria or background measurements.	Can be released for public use
Building 374	Former radium paint shop	Unable to characterize because of floor construction	Follow recommendations of survey team and recommend radon monitoring
Building 375; service area 2LM	Former instrument room, tool/parts crib, cafeteria, breakroom; refurbished depleted uranium counterweights	No contamination found.	Can be released for public use
Building 385	Aircraft wash rack – some discussion that depleted uranium-containing parts may have been washed	No contamination found above surface contamination limits Did not sample floor drains	Recommend that drains be checked; if negative, can be released for public use
Building 620	Sludge digesters storage room	No contamination found above surface contamination limits	Can be released for public use
Building 1420	Mixing room for depleted uranium and epoxy	No contamination found above surface contamination limits	Can be released for public use
Building 1470-I	Fenced storage area and shipping/receiving area	No contamination found	Can be released for public use
Building 1562	Shipping/receiving area destroyed by a tornado in 1989, only concrete pad remains at site	No contamination found	Can be released for public use
Building 3810	Depleted uranium storage	No loose contamination found; no radioactivity above background.	Can be released for public use

REFERENCES

1. Transmittal letter from Charles R. Williams, chief of Environmental Compliance Programs, Kelly Air Force Base to Michael L. Carrillo, Environmental Protection Agency, Region VI, Dallas, Texas.

2. MARSIMM (1997). Multi-Agency Radiation Survey and Site Investigation Manual. Nuclear Regulatory Commission NUREG-1575 and US Environmental Protection Agency EPA 402-R-97-016.

3. Atomic Energy Commission (1974). Termination of Operating Licenses for Nuclear Reactors, Regulatory Guide 1.86. U.S. Atomic Energy Commission, Washington, D.C., June 1974.